

## Annex to Cover Letter

### ISPC concerns with the Feed & Forages Flagship

Focus is on the final comments specific to the flagship and related general comments for the CRP.

Comments from ISPC	Response
<ul style="list-style-type: none"><li>• <b>Weak track record of delivery at scale.</b></li></ul> <p><b><u>From June 2016 – only ‘partially addressed’</u></b> Even though the targets are overly optimistic for many CRPs, LIVESTOCK is an outlier in that some of the targets proposed (number of people likely to be lifted out of poverty, rate of yield increase) do not appear credible. These targets should be revisited or additional justification, grounded in empirical evidence, provided for the numbers quoted.</p> <p><b><u>From Sept 2016 added comment:</u></b> <b>Partially addressed.</b> Additional explanations and calculations are welcome, but with implicit issues in assumptions on constraints to scaling for existing technical solutions (risk that the critical constraints are elsewhere or may not be addressed through research), and insufficient attention to rates of change in poverty (the expected decline in poverty over the six years has to be accounted for).</p>	<p>We acknowledge the ISPC comments on ‘overly optimistic targets’ and have adopted more conservative assumptions regarding the reach of research output uptake and its impact on poverty reduction. The estimates were developed through modeling, which is available for review. Improving the confidence of these parameters as part of the cross-flagship effort on foresight and prioritization remains a priority output for the flagship.</p> <p>We also acknowledge the valuable comments made by ISPC in terms of technology uptake and agree that for some regions, documentation on technology adoption is still scarce (e.g. Africa and Asia). Adoption of forage technologies is documented for Latin America (&gt;700.000 ha adoption of hybrids related to the CRP) with the overall estimated adoption of improved forages is at least 150 million ha. Data for Brazil is published (e.g., Jank et al., 2014). We note the growing interest of the private forage seed sector (e.g. TropicalSeeds/Papalotla in Kenya) to start efforts in East and Southern Africa is creating potential to accelerate uptake of improved forage varieties. The biggest temperate forage seed company (DLF) has just bought shares in a south African forage seed company. We are therefore confident of being able to achieve the proposed adoption of 2 million hectares of Brachiaria and Megathyrsus and to reach 600,000 farmers with improved forages by 2022.</p> <p>We are aware that sufficient ex-ante assessments for evaluating the potential of improved forages are not yet available, which the flagship intends to address. However, the limited existing ex-ante assessments indicate the huge potential of tropical forages for Africa (e.g., Teufel et al., in prep; Gonzalez et al., 2017).</p> <p>The flagship narrative has been rewritten to highlight more clearly how these challenges and the evidence have informed the priorities being pursued.</p>

<p>• <b>Comparative advantage vis-à-vis other comparable research and the development of private sector feed industry is unclear.</b></p> <p><b><u>From June 2016 – ‘Satisfactorily addressed’ for overall CRP</u></b>  Include additional detail on the CRP’s relationship with the private sector, and how this contributes to maximizing LIVESTOCK’s comparative advantage</p> <p><b><u>From Sept 2016 added comment:</u></b>  Recognition that the private sector is a critical part of the livestock/ASF value chain is welcome. How such an engagement maximises CRP comparative advantage is worthy of monitoring over time.</p>	<p>We acknowledge the ISPC comments on the comparative advantage of the CGIAR in terms of feeds and forages strategic breeding. In the section ‘Rationale and scope’ and in the section ‘Partnerships’, we present arguments for why the CGIAR maintains a clear comparative advantage vis-à-vis private sector forage development, NARS and other actors, including noting that a major seed multi-national continues to rely on CGIAR for its forage breeding. We recognize, however, that the sector is evolving and therefore our breeding work and multi-locational targeting and testing work will need to be aligned more strongly and more effectively to the increasing activity among other actors.</p> <p>We acknowledge the ISPC concerns that addressing feeds and forages constraints is also a delivery issue. We have rebalanced the agenda to give this dimension more priority and have revised the narrative to give the delivery challenges more prominence. It has strengthened the flagship component of targeting and development in line with the dynamic development of the livestock sector (including markets and climate change) and the resulting emergence of much more specific production niches. In response to the comments made by ISPC on technology delivery, we have shifted W1/2 funds to achieve a better balance between feeds and forages development (Cluster 2), targeting (Cluster 1), delivery (Cluster 4) and monitoring (Cluster 4). This will strengthen technology delivery, uptake and process monitoring.</p> <p>The private sector is a crucial player for the dissemination of our technologies. Our connections and aspiration with the private sector are now highlighted in a much clearer way in the sections ‘Rationale and Scope’ (p.4) and ‘Partnerships’. The private feed and forage seed sector is showing clear interest in continuing their work with the flagship on forage breeding and feed utilization.</p>
<p>• <b>Lack of detail on research priorities, science outputs and timelines.</b></p> <p><b><u>From June 2016 – only ‘partially addressed’</u></b>  For all Flagships, additional explanation on scientific opportunities identified through the priority setting process and their relevance to CRP and Flagship-level Theory of Change is needed. Such a narrative should include evidence on the most important constraints to achieving stated</p>	<p>We acknowledge the comments made by ISPC, including specific concerns about the science quality section. We completely re-worked the sections ‘Rationale and Scope’ and ‘Science Quality’ showing how our past experience and evidence have shaped research priorities. The science quality section identifies the existing constraints and how we think these could be overcome through our research. In the section ‘Clusters of Activity’ we made substantial changes in order to strengthen the focus of our research agenda and to more explicitly define our priorities and the outputs that will be achieved. The flagship outputs address three principal Sub-IDOs: ‘More efficient use of inputs’, ‘Closed (livestock) yield gaps through improved agronomic and animal</p>

objectives (identified from past work), and how research can address these constraints and deliver outcomes/impacts.

**From Sept 2016 added comment:**

This response embraces the ambitious idea that an integrative approach is needed to address problems in production, supply and consumption of ASFs, and that transformational change will require attention to entry points that will most readily achieve net gains across each of the food system domains.

There is a trifurcation in terms of research entry points: technologies, genetic gains, and policies. The CRP also differentiates between short term solutions that can be delivered within six years and longer term investments which may deliver in 10-20 years. That said, the underlying agenda still seems to be focused on 'yield gap' thinking, and a focus on smallholder systems.

Overall, despite sound reasons for focussing on smallholder animal production systems, including the argument that scientific opportunities are intense for these systems and these are under-researched elsewhere in the world, it is important for the CRP to better articulate and defend the role of livestock in smallholder production systems in meeting the growing demand for ASFs.

**From June 2016 – only 'partially addressed'**

Present further clarification on the scientific rationale underpinning the research focus on improved livestock breeds, vaccines, and improved feeds and forages; how the broader technical advances will lead to research success within six years; and, how risks will be mitigated or managed.

husbandry practices', and 'Technologies that reduce women's labour and energy expenditure developed and disseminated'.

We acknowledge the ISPC comments on clarifying our contributions to the Sub-IDO 'Closed yield gaps through improved agronomic and animal husbandry practices'. We agree that the appropriate research focus is on closing the **livestock** yield gap by delivering better feed material and other interventions that enhance animal productivity through provision of more stable and higher quality feeds.

With regard to the flagships' linkages to other CRPs, CGIAR centers and external partners, we have highlighted the connections and common work. This includes, the food-feed crops initiative (with the agri-food systems CRPS and crop centres) and the Biological Nitrification Inhibition (BNI) consortium.

With regard to the contribution to other Sub-IDOs, such as 'capacity development' 'and environmental issues', the Flagship will contribute through collaboration with flagships 4 (Environment) and 5 (LLAFS) rather than by the Flagship itself.

<p><b><u>From Sept 2016 added comment:</u></b></p> <p>The science quality section focuses on tools rather than problems to be solved and a discussion of the strategy through which research might address these problems. Genetics and novel vaccines/herd health are certainly important goals offering much promise of impact, but there isn't enough evidence to strengthen the argument that established technical solutions can deliver targets within six years. This risk is higher for the feed and forage work where scaling up of existing solutions is critical for results at scale. This doesn't invalidate the proposal, but there are implicit assumptions about high returns and relatively low risks.</p>	
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## DONOR concerns with the Feed & Forages Flagship

Comments from the FEWG review	Response
<p>This flagship is considered to have medium to high potential for impact. Improved feeding is critical for realizing the genetic potential of animals, when combined with better health and better breeds. Improved feeding alone will not suffice. The desired impact from FP3 on feeds and forages will be highly dependent on the success of the genetics and animal health flagships which aim to help farmers gain access to healthy and more productive livestock. The main beneficiaries of this work will be smallholders who do not have year-round access to quality feed and fodder to capitalise on the genetic potential of animals. The impact pathway is clear. Beneficiaries are described, <b>but several potential beneficiaries are not included such as national and local formal and informal institutions. Gender</b></p>	<p>We acknowledge the donor comments on additional potential beneficiaries (e.g., national and local formal and informal institutions). We have those beneficiaries in mind, especially in our Theory of Change when talking about next users. Our tools developed under Cluster 1 will be beneficial for a broad range of stakeholders such as NARS, NGOs, GOs, educational sector, farmers, and private sector. The feeds and forages technologies we will develop (Cluster 2 and 3) will also be beneficial for NARS and the private sector as they will further develop and disseminate these and will also be supported in capacity development. In Cluster 4, we will follow a value chain and innovations platform approach that includes specifically national and local formal and informal institutions around the feeds and forages business. We will also share and validate our findings with national and local formal and informal institutions such as roundtables and innovation platforms. This has been more fully addressed in the revised flagship proposal.</p> <p>With regard to gender milestones, we have a clear gender outcome to be achieved by 2022: 'Improved feeding practices that reduce women's labour and energy expenditure by 10% developed</p>

<p><b>considerations are fully included but need clearer milestones to assess the positive impact of the feed/fodder work on women.</b></p> <p>Partnerships with private sector companies for seed production are possible. With respect to partnerships for delivery the flagship proposes that the CGIAR will manage <b>NIRS platforms. This may not be sustainable and cost-recovery mechanisms should be described. Milestones include 5000 feed enterprises being developed with the assistance of development and/or private sector partners. The relationship with these partners is not described within the partnership section so it is not clear how this will occur.</b></p> <p>This flagship has milestones with reference to 12 countries.</p> <p><b>What are the countries and value chains to be addressed?</b></p> <p>The overall LIVESTOCK CRP lists specific value chains in only 9 countries.</p>	<p>and disseminated, reaching 1.6 million women in 12 countries. This will be addressed mainly through Clusters 3 and 4 where specific milestones are being mentioned: ‘Scalable and gender-responsive processing technologies are used by national and international development partners, the private sector and community-level organizations in at least 1 priority country (2019)’ and ‘National and international development partners and other value-chain actors pilot test at least 4 extension approaches (including at least 1 that improves women’s access to information) in at least 1 CRP focus country (2019)’, ‘National and international development partners and other value-chain actors adopt and scale up at least 2 of the tested extension approaches (including at least 1 that improves women’s access to information) in 5 priority countries (2022)’, ‘Increased uptake and impact of improved feeds and forages and processing technologies, with a particular focus on women and young people in 3 priority countries (2019) and in a further 2 priority countries (2022)’.</p> <p>With regard to the NIRS platform, NIRS is already being used in the development of food-feed crops and forages. This is sustained through specific funding for these activities. Future investment to integrate these efforts for making them widely available to next users (e.g., research partners and the private sector) is projected to be minimal. Mobile units are intended for more rapid and cost-efficient application of NIRS.</p> <p>The milestone on 5000 feed enterprises to be developed was reviewed critically and revised down to 100 as a more realistic target for 2022. The development of these enterprises will be at value chain/innovation platform level involving a broad set of relevant stakeholders of the feeds and forage sectors and building on their expertise and experiences. This goes beyond the scope of the partnership section where the focus was set on strategic partnerships at Flagship level.</p> <p>With regard to the countries and value chains to be addressed, the flagship will work in eight CRP priority countries, namely Ethiopia, India, Kenya, Nicaragua, Tunisia, Uganda, Tanzania and Viet Nam, together three countries where bilateral funding will support related work: Bangladesh, Colombia and Nigeria. In addition, the flagship will have several outputs at global scale, such as the tools and the dissemination of feeds and forage material through private sector partners. This increases the total number of countries where the flagship expects to have some involvement to &gt;30.</p>
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<p>This flagship is of high strategic importance to the LIVESTOCK CRP, and is closely linked with FP1 (genetics) and FP2 (health) to improve livestock feed, breeds and health, for increased productivity. There is a strong alignment between challenges identified and proposed interventions, with a well defined research agenda to address clearly established problems. This flagship will focus on R4D aimed at increasing the quality, access, adoption, and impact of improved livestock feeds/fodder on production, productivity and income. Some of the key questions that need to be answered are: <b>(1) the quality (safety/composition) of various feed types and sources, including the extent, quality, and use of feed additives/antibiotics; (2) the impact of seasonal access to quality feed/fodder; (3) impact of gender inequalities in access to feed/fodder on productivity and profitability; (4) the impact of increased adoption (dose response rates) of improved feed/fodder on the productivity, profitability, and income of farmers with local, crossbred or exotic livestock; and (5) how do factors such as extension, income levels, farm gate prices, herd sizes, and access to complimentary inputs (animal health) affect adoption and impact of improved feeds/fodder?</b></p> <p>The institutional arrangement are appropriate, with clear cluster leadership. <b>Institutional arrangements amongst CGIAR partners could be more clearly described. There is potential private sector involvement which could also be more clearly described (see Q1 comments above). More information is needed that describes the role of national institutions (both formal and informal) especially in areas related to the participation of women in defining priority needs and impact.</b></p>	<p>The questions raised cover areas that are envisioned as part of the more detailed research agenda under the main priorities embodied by the Clusters of Activities. These include:</p> <p>(1): Feed quality to be addressed in Clusters 2 and 3 with specific focus on quality in feed and forage options and on feed processing, respectively</p> <p>(2): Seasonal access embedded within Cluster 1 (ex-post/ex-ante impact studies), Cluster 2 (development of feed options), and Cluster 3 (improvements in feed utilization throughout the year). Inter-annual variation, in particular in dryland environments, is also to be addressed.</p> <p>(3): Gender dimensions are to be addressed mainly in Cluster 3 and Cluster 4.</p> <p>(4): The impact of adoption is key to Cluster 1 mainly through ex-post/ex-ante impact studies.</p> <p>(5): Factors affecting adoption will be addressed in Cluster 1 (ex-post/ex-ante impact studies) and Cluster 4 (value chain/innovation platforms approach).</p> <p>The institutional arrangements are now more clearly described in the partnerships section, the flagship management section and in general in the whole proposal.</p> <p>The private sector involvement has been highlighted in a clearer way. The private sector is considered to be a crucial player for the dissemination of our technologies. Our connections and aspiration with the private sector are now highlighted in a much clearer way in the sections 'Rationale and Scope' and 'Partnerships'. The private feed and forage seed sector is showing clear interest in continuing their work with the flagship members on forage breeding and feed utilization.</p> <p>Five of the fifteen milestones to be addressed in Clusters 3 and 4 through value chain/innovation platforms approaches relate to gender and more equitable participation; in the more detailed plans, each involves national and local formal and informal institutions.</p>
<p>The CGIAR does have a comparative advantage in the area of feeds and forages. Overall alignment with CGIAR assets and</p>	<p>With regard to NARS and private sector involvement, the roles are now more clearly outlined aiming rather at cooperation and complementarity than at contracting.</p>

<p>strengths is satisfactory. The proposal describes a 50-year history of research in Feeds and Feeding, yet the CGIAR is still conducting some research that NARS might be capable conducting. <b>National programs could be contracted to do more of the field work.</b> The scale of budget is extremely difficult to judge.</p> <p>One reviewer commented that this is one area where the CGIAR could make an immediate impact on livestock productivity. <b>In particular, the program should focus on research to adapt existing varieties in other tropical areas (Australia, Brazil, India, etc) for use in the target geographies.</b> It should also focus on increasing the timely access, awareness, and adoption of quality feed inputs and associated services in each country and demonstrate the dose-response rates. There is an urgent need to reduce seasonality. Most smallholders fall back on crop residues in the dry season, so new technologies to increase the utility of such crop residues will be valuable, building on previous work by ILRI on crop residues.</p>	<p>With regard to existing forage varieties in other tropical areas, these are included in our on-farm feeds and forages testing and development and we are seeking how to select these varieties for uses in other areas (e.g. Pennisetum from Brazil being tested and selected in East Africa). Our forage breeding efforts are focussed on developing superior options for specific production niches (Urochloa for example is native to Africa and being improved for use in Latin America, Africa and Asia; improved Megathyrsus is being bred for niches in Latin America, Africa and Asia). For food-feed crops, the breeding work is capturing a specific niche making use of crops for high quality feeding.</p>
<p><b>Milestones and deliverables are listed for each cluster, but it is unclear how monitoring of progress and interim assessments will be used to adjust research activities.</b></p> <p>The FP needs to articulate a likelihood of technical success for the various components (clusters). There also needs to be a clear plan for establishing technology transfer and research and extension linkages with industry actors, which should be measured in terms of: (1) number, quality, and assessed impact potential of actual tools, feed/fodder varieties tested, and feed ingredients/components, and alternative feed technologies made available; (2) actual number of tools, varieties, and feed ingredients/components, and alternative feed technologies made available that are successfully transferred and are being scaled by partners, especially the</p>	<p>The CRP monitoring and evaluation strategy is being established through strategic investments in line with the ongoing development of the System Results Based Management Framework, including key indicators being agreed with SIMEC. A central component of the Livestock CRP's M&amp;E system will be annual Theory of Change sessions during which evidence being generated will be reviewed and the priorities and impact pathways adjusted accordingly. This will include building on lessons learned from ex-ante impact and foresight studies to be conducted under Cluster 1 in this flagship, together with a set of adoption and ex-post impact studies related to feed and forage technologies that have been commissioned as priority by the CRP management.</p>

private sector; and (3) a system for tracking impact on the ground, including the adoption rates of said tools, varieties, ingredients/components, and alternative feed technologies.	
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## Summary of changes in the revised proposal for the Livestock Livelihoods and Agri-food Systems Flagship of the Livestock CRP

Focus is on the final comments specific to the flagship and related general comments for the CRP

Comment from ISPC	How these were addressed in the revised FP proposal
<ul style="list-style-type: none"> <li>• <b>Unclear basis for prioritization of research questions</b></li> </ul> <p><b><u>From June 2016 – only ‘partially addressed’</u></b></p> <p><i>Orig. June comment:</i> For all Flagships, additional explanation on scientific opportunities identified through the priority setting process and their relevance to CRP and Flagship-level Theory of Change is needed. Such a narrative should include evidence on the most important constraints to achieving stated objectives (identified from past work), and how research can address these constraints and deliver outcomes/impacts.</p> <p><i>Additional Sept commentary:</i> This response embraces the ambitious idea that an integrative approach is needed to address problems in production, supply and consumption of ASFs, and that transformational change will require attention to entry points that will most readily achieve net gains across each of the food system domains.</p> <p>There is a trifurcation in terms of research entry points: technologies, genetic gains, and policies. The CRP also differentiates between short term solutions that can be delivered within six years and longer term investments which may deliver in 10-20 years. That said, the underlying agenda still seems to be focused on ‘yield gap’ thinking, and a focus on smallholder systems</p>	<p>We have addressed this at two levels: a) at the flagship overall, and b) within each of the four clusters of activities. In the Rationale section 2.5.1.1 we have clarified how the interactive factors that drive livelihoods and well-being impacts (including nutrition and equity) lead to the key sets of research priorities which in turn define the 4 clusters of activities. These necessarily range from household and market-level interventions, to wider national and regional policies and investments, given that livelihood-impactful factors exist at these multiple levels simultaneously. As indicated these sets of priorities are: a) integrated technical and institutional innovation at farm and agri-food system levels to increase productivity and improve income and assets, b) strategies to improve equity impacts for women and other marginalized actors, and to create new opportunities for youth, c) interventions to increase positive nutritional outcomes from high nutritive value animal sourced foods, d) priorities and strategies for better policies and investments that bring about positive welfare impacts, in addition to priorities for technology development. These are the minimum set of research priorities required to address the full range of livelihood and wellbeing impacts that we expect to be associated with livestock.</p> <p>We have also clarified how this flagship will work with the other flagships: by providing an integrative mechanism for technologies and strategies to be piloted and implemented among target livestock keepers and communities (Initial summary box, 2.5.1.3, 2.5.1.6). Impact assessment of selected technologies, institutional arrangements and policies will also be coordinated in this flagship, to ensure consistency of the approaches and to support priority setting. Gender research is integrated throughout the CRP and is homed in this flagship.</p> <p>In the section on Lessons Learned 2.5.1.5, we have provided specific examples as to how our experiences in the Livestock and Fish CRP have led to research questions for this CRP. It has been only in the last year that we become fully aware of the limitations of the existing livestock system modelling tools, so addressing that gap sets a priority for cluster 1. Similarly, we describe limitations in past gender transformative approaches, which now guide the next phase of research.</p>

	<p>At the level of the cluster, we now describe more clearly what the key knowledge gaps and needs are within that research area, based on experience and the evidence available. The initial proposal emphasized the ‘What we would do’ – we now first address the ‘Why’. We believe that in each cluster we now describe more clearly the rationale that leads to the research priorities.</p> <p>It should be noted that we have combined clusters 4 and 5 from the previous proposal into one, cluster 4. The previous clusters separated farm-level technical and institutional innovations, from market and system level institutional innovation. We found that distinction to be overly arbitrary, since some of the institutional innovations being tested have outcomes at both levels, such as producer hubs for market access, but also for better access to services and technology. We believe that the combined cluster will now be more effective in delivering research leading to impactful interventions.</p>
<ul style="list-style-type: none"> <li>• <b>Generalizability of smallholder success story is questionable</b></li> </ul> <p><b><u>From June 2016 – only ‘partially addressed’</u></b></p> <p><i>Orig. June comment:</i> For all Flagships, additional explanation on scientific opportunities identified through the priority setting process and their relevance to CRP and Flagship-level Theory of Change is needed. Such a narrative should include evidence on the most important constraints to achieving stated objectives (identified from past work), and how research can address these constraints and deliver outcomes/impacts.</p> <p><i>Additional Sept commentary:</i> This response embraces the ambitious idea that an integrative approach is needed to address problems in production, supply and consumption of ASFs, and that transformational change will require attention to entry points that will most readily achieve net gains across each of the food system domains.</p>	<p>We have not assumed the generalizability of the success of smallholders and it has not been our intention to promote smallholders as a model for livestock development. Our approach has always been simply to use the best evidence available to achieve our objectives, and ultimately contribute to the target sub-IDOs as effectively as possible. As described in section 1.0.1 of the CRP proposal, the continued large role of smallholders is an inescapable reality in most systems, particular for ruminants, in the low income countries which are the priorities for all the CRPs (Herrero <i>et al.</i>, 2014). They continue to produce most of the livestock products in target countries, and even more so, comprise by far the largest numbers of people, particularly poor people, associated with livestock production. If our aim is thus to improve livelihoods among the poor and to increase the supply of livestock products for consumers overall, there is no option but to conduct research that delivers interventions that can specifically improve productivity and welfare of those people and households in small scale production. Indeed, where we are successful, we observe some producers increasing the scale their operation to the level where, depending on the system, they may no longer be regarded as smallholders. In addition, success may also lead to a generational exit from livestock keeping and from agriculture entirely, given the unique and frequent role of livestock assets in paying for children’s education. Our aim in addressing the needs of smallholders is not to create more smallholders, but to provide them, the largest group of livestock producers, with positive options for improving their welfare through livestock, including increasing commercialisation or as a pathway out of agriculture. To support that commercialization process, we employ multiple initiatives, such as supporting dairy business hubs and multi-stakeholder</p>

<p>There is a trifurcation in terms of research entry points: technologies, genetic gains, and policies. The CRP also differentiates between short term solutions that can be delivered within six years and longer term investments which may deliver in 10-20 years. That said, the underlying agenda still seems to be focused on ‘yield gap’ thinking, and a focus on smallholder systems.</p> <p>Overall, despite sound reasons for focussing on smallholder animal production systems, including the argument that scientific opportunities are intense for these systems and these are under-researched elsewhere in the world, it is important for the CRP to better articulate and defend the role of livestock in smallholder production systems in meeting the growing demand for ASFs.</p> <p><b><u>From June 2016 – ‘Satisfactorily addressed’ for overall CRP</u></b> Include additional detail on the CRP’s relationship with the private sector, and how this contributes to maximizing LIVESTOCK’s comparative advantage</p> <p><b><u>From Sept 2016 added comment:</u></b> Recognition that the private sector is a critical part of the livestock/ASF value chain is welcome. How such an engagement maximises CRP comparative advantage is worthy of monitoring over time.</p>	<p>platforms that bring together different types of market actors to create new market linkages and explore new business models. We generally do that using a Business Development Services (BDS) approach, by capacitating third-party NGOs or private enterprises to meet the needs for those support and facilitation services.</p> <p>We recognize however that the narrative of the initial proposal did not adequately reflect the scales of livestock operations, and the commercialization process, that we in fact address in our research. We do work with medium scale livestock enterprises in a number of settings, particularly when they may provide a model for future evolution of small scale actors, and also where they play a positive role alongside smallholders, by driving demand for (and thus stimulating supply of) livestock services and inputs, which smallholder then also benefit from. For example, in Swaziland we have developed and successfully piloted a model of beef fattening linked with a private financing innovation that allows livestock producers without collateral to feed lot batches of 20-25 cattle. In Kenya pastoral systems, we are building linkages between smaller pastoralists and larger ranches to jointly identify strategies for market access. Also in East Africa our work on dairy business hubs includes larger producers (10+ cows) who help drive demand for the hub services, so improving sustainability. In Vietnam we have conducted research on large scale contract pig producers, to evaluate barriers to entry to those arrangements for smaller producers. In Nicaragua, all of the work targets medium scale dual purpose dairy-beef producers. See the text below in response to donor comments for additional examples of work through PPPs to support commercialisation.</p> <p>In a number of places in the text, we have changed the language to better reflect that fact that in many contexts, we also work with medium scale enterprises.</p>
<ul style="list-style-type: none"> <li>• <b>Significant risk that research will deliver only localized outcomes and impacts.</b></li> </ul> <p><b><u>From June 2016 – only ‘partially addressed’</u></b> Even though the targets are overly optimistic for many CRPs, LIVESTOCK is an outlier in that some of the targets proposed (number of people likely to be lifted out of poverty, rate of yield increase) do not appear credible. These targets should</p>	<p>We recognize that because of the fact that the flagship depends for most of its research funding on bilateral projects that tend to be system specific, the risk exists of not producing IPGs that can have wider impact. We did not adequately explain in the original proposal that the focus of all the W1/2 funding is to complement these bilateral projects We recognize that because of the fact that the flagship depends for most of its research funding on bilateral projects that tend to be system specific, the risk exists of not producing IPGs that can have wider impact. We did not adequately explain in the original proposal that the focus of all the W1/2 funding is to complement these bilateral projects by providing the resources to conduct cross-site (even cross continent – such as</p>

be revisited or additional justification, grounded in empirical evidence, provided for the numbers quoted.

**From Sept 2016 added comment:**

**Partially addressed.**

Additional explanations and calculations are welcome, but with implicit issues in assumptions on constraints to scaling for existing technical solutions (risk that the critical constraints are elsewhere or may not be addressed through research), and insufficient attention to rates of change in poverty (the expected decline in poverty over the six years has to be accounted for).

pig system interventions in Uganda and Vietnam) syntheses and analyses for strategic learning. The CRP program funds would also be used for the advocacy and communication work, largely through partners, that is key to achieving outcomes, particularly among higher level decision makers. Since we follow similar designs and approaches for livestock systems across sites, the framework is already in place to conduct these strategic syntheses. The bilateral projects are not usually willing to provide the resources for these syntheses and IPGs, thus the W1/2 resources play a critical and strategic role. We have made this more clear in a number of places in the text, such as 2.5.1.1 under Lessons Learned, 2.5.1.3 on ToC, and 2.5.1.12.

In addition, there are numerous examples where bilaterally funded, site specific research has generated IPGs and multi-country outcomes. The work on piloting of training and certification for informal milk traders in Kenya (Kaitibie *et al.*, 2010), was first piloted in a single town, and after policy approval was expanded to other sites nationally. Regional gatherings of national dairy board officials led to the approach to be taken up to varying extents across East Africa. Meetings between those officials and dairy officials from Assam, India, has now led to that state to implement similar approaches. Even more broadly, the same principle of upgrading informal livestock value chains has now been applied to pig systems and is now the strategy of using basic training and certification in hygiene, standards and business skills is being applied in a number of countries and settings. In the Kenya dairy case, the donor was willing to pay for the advocacy and communication activities that led to the wider outcomes. W1/2 resources will be key to playing the same role

## Summary of LLAFS section-specific changes

Section	Changes made
2.5.1.1 Rationale and scope	<p>Documentation of the importance of smallholder systems has been minimized, since that is well covered in the CRP proposal section 1.0.1. As indicated in that section, we also recognize that we work with a range of actors, including medium scale who can play the role of change agents. This is described in detail in the table above.</p> <p>The emphasis is now on the importance of livestock for livelihoods and wellbeing, which lie at the core of the Flagship. The text lays out the rationale for the prioritization of research topics and the 4 resulting clusters of activities. This is based on the fact that livestock livelihoods outcome are influenced by an interactive set of complex factors, from technology and farm productivity, to gender roles, barriers and social norms, to market access and dynamics and services availability, to the policy environment. In addition prioritization and planning of technology and development investments, and of policy change will impact all of these, so must also be integrated into the flagship portfolio. This is also described above in the response to research prioritization.</p> <p>We also make more clear how W1/2 resources will play a strategic role in leading to IPG, also as described above.</p>
2.5.1.1 Why invest?	A clearer description of the CGIAR comparative advantage is provided.
2.5.1.2 Objectives and targets	We recognized that our assumptions of “spill over” outcomes among actors with whom were are not directly working were likely to be overly optimistic. We had assumed a 200% spill over effect, but after consultations with partners, have reduced that to 50%. We have also removed Pakistan from the estimates of number of actors impacted, since we expect to have only limited activities there going forward, due to reductions in bilateral funding. The targets in this section have thus been reduced.
2.5.1.3 ToC	The ToC now shows more clearly the link between the clusters 2,3,4 to cluster 1 to provide evidence for prioritization and policy analysis. The role of strategic syntheses through W1/1 resources, to achieve broader outcomes and impacts, is also clarified.
2.5.1.4 Science Quality	This has been revised to demonstrate more clearly the approaches that will be used to address the research in each cluster, illustrated by citations, which are also used to demonstrate the strong track record of the LLAFS research team.
2.5.1.5 Lessons Learned	The previous version overlapped too much with 2.5.1.4 in describing what we planned to do. The current version explicitly looks at shortcomings and knowledge gaps, and how they have shaped our research priorities, and how we will tackle them.
2.5.1.6 Clusters of activities	We now describe more clearly what the key knowledge gaps and needs are within that research area, based on experience and the evidence available. The initial proposal emphasized the What we would do – we now first address the Why. We believe that in each cluster we now describe more clearly the rationale that leads to the research priorities. We also indicate in more detail some of the deliverables and products to be achieve from each of the research activities.

## DONOR concerns with the Livestock Livelihoods and Agri-Food Systems Flagship

Comments from the FEWG review	Response
<p>The scientific pathway is credible because it attempts to look at well defined activities in main pillars of the livestock systems including policies, institutions, productivity and household well being. The impact on livelihoods would be based on what is available now and how to expand the achievements of previous work. The beneficiaries include livestock keepers, as well as national and local formal and informal institutions. Partnerships are strong especially with the engagement of the beneficiaries which would consolidate the impact. It would be desirable to present a summary of previous achievements in this domain and how the new flagship would expand such contributions to reach more households.</p>	<p>In response to the point about summary of previous achievements, we have strengthened the description of Science Quality (2.5.1.4) to document previous research achievements, with references. In the next section on Lessons Learned (2.5.1.5) we reflect on what new priorities that research experience has led to which now guide the work in the new phase.</p>
<p>Priority setting is included as a cluster activity to help create strong alignments and partnerships. New institutional arrangements will likely need to be tested and run some risk of not working well. Partners are listed but there is limited discussion of their roles and/or institutional arrangements for successful project implementation. Given the multi-faceted nature of this flagship, there is <b>a risk that it could turn out to be a flurry of uncoordinated activities and pilot programs that yield volumes of reports and delivers nothing concrete for farmers</b>. Strong leadership will be essential for success.</p>	<p>This concern is similar to that above from the ISPC related to the uncertainty of effectively delivering IPGs. As was described, W1/2 resources will be used to generate strategic synthesis of research findings across sites, and also to advocate and communicate those outputs to generate outcomes more widely. In terms of concrete results for farmers, the bilateral projects within this FP have very strong and numerous ties with a number of development agencies and actors, and they are developing a number of effective interventions for integrated strategies on farm (such as for small ruminant, pig and dairy systems in East Africa) as well as institutional innovations that improve access to markets and services. Our task is to ensure that those successes do not remain localized, and lessons are packaged and advocated for wider impact.</p>
<p>There is a strong comparative advantage of ILRI and its CGIAR partners (CIAT, ICARDA, ICRAF) and substantial alignment with CGIAR core assets and capacities in order to produce global public goods. One reviewer suggests that <b>this flagship should be focused on facilitating public-private partnerships to: (a) help identify and address most of the interdependent technical themes such as genotype x health x feed x extension interactions; (b) identify unique ways to address the food x feed challenge; (c) enable effective policy and regulatory systems to translate potential</b></p>	<p>These points are well taken and the details reflect key issues described in our clusters of activities. We do work with private sector actors to develop PPPs, such as with a bank in Swaziland to finance new feedlot enterprises and with private milk processors, banks and providers of livestock services as partners in the dairy business hubs being developed in East Africa. The CRP overall has developed a working group to explore livestock agribusiness opportunities in our target communities, and that group is working closely with our FP. We do work in agro-pastoralist areas with both private livestock market agents and local government agencies that coordinate and regulate livestock markets. An</p>

<p><b>productivity into realized productivity, income, and improved livelihoods by removing market barriers; (d) help address inequality and barriers and develop and test approaches for empowering women in terms of access to capital and inputs needed for livestock production; (e) provide evidence on how to translate increased livestock production into nutrition improvement from a food-systems standpoint; and (f) develop and test models to increase the resilience of livestock systems, especially for agro-pastoralists.</b></p>	<p>expanding PPP approach to resilience in those areas, the Index Based Livestock Insurance, is being managed by the Livestock and Environment FP.</p>
<p><b>The M&amp;E plan for the proposed FP5 clusters would benefit from further elaboration. This flagship needs a well-defined measurement and tracking framework so that it does not become a series of fluffy pilot studies, workshops, and reports, with no impact on the ground</b></p> <p>It is unlikely that the actions of this flagship alone can really be attributed to the proposed result in a super complex setting, with multiple contributors and partners and across the LIVESTOCK CRP (FPs 1-4), as well as externally, within and beyond the CGIAR. Nevertheless, FP5 can become a significant contributor to the LIVESTOCK CRP achieving impact, and this reflects well on the LIVESTOCK CRP and on the CGIAR investments in livestock.</p>	<p>In the more detailed plans, the new cluster 4 has responsibility for impact assessment and M&amp;E among target beneficiaries, in terms of developing and monitoring indicators of both outcomes and impacts. Development of those tools began in the L&amp;F CRP and includes not only frameworks and indicators to assess uptake and impacts at the household level, but also to evaluate progress and performance among groups such as the dairy business hubs, and the various innovation platforms employed in bilateral projects to facilitate joint learning and to build innovation capacity.</p>